

Version 2.0



## Abstract

**Grant Number:** 2R44NR004663-02A1

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**PI Title:**

**Project Title:** Pressure Notification System to Prevent Pressure Ulcers

**Abstract:** *DESCRIPTION (provided by applicant): Investigators seek to refine and test the efficacy of the Pressure Notification System (PNS) in this Phase II research. This system is a practical adjunct in the treatment of pressure ulcers in nursing homes, continuously monitoring the frequency and duration of localized pressure via a wireless sensor adhered to a wound dressing. Results of the Phase I prospective study suggest a relationship between frequency of weight shifts at the ulcer site and days to heal. Following device refinements, five nursing home facilities will participate in clinical research through an observational study and a clinical trial. The purpose of the observational study is to find notification parameter values to be used in the clinical trial by which to alert nursing staff of prolonged pressure on existing stage I and II ulcers. The efficacy of PNS intervention, as compared to conventional AHCPR two-hour turning schedule, will be evaluated in a controlled clinical trial. This technology could benefit patients by speeding healing and reducing related facility costs related to pressure ulcer care. PROPOSED COMMERCIAL APPLICATION: The long-term goal of this research is to develop a low-cost, technology-assisted prevention strategy to benefit bed and chair-bound patients predisposed to pressure ulcers in nursing homes, long-term care, and home care environments. A dramatic cost reduction to the general health care system could be realized with the successful development, commercialization, and implementation of the proposed system. REVIEW CRITIQUES: + \_\_\_\_\_*

### **Thesaurus Terms:**

*biomechanics, biomedical equipment development, decubitus ulcer, disease /disorder prevention /control, patient monitoring device*

*clinical trial, computer program /software, computer system design /evaluation,  
mechanical pressure, portable biomedical equipment  
clinical research, human subject*

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